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WILLIAMS, MORGAN & AMERSON, P.C. 10333 RICHMOND, SUITE 1100 HOUSTON, TX 77042			TON, ANTHONY T	
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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/627,680	<b>Applicant(s)</b> COLE ET AL. <span style="float: right;">A</span>	
	<b>Examiner</b> Anthony T Ton	<b>Art Unit</b> 2661	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 23 August 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-21, 23, 25, 28-30, 33 and 35-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 23, 28-30, 33 and 35-42 is/are allowed.
- 6) ☒ Claim(s) 1-21, 25, 43 and 44 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

  
**PHIRIN SAM**  
**PRIMARY EXAMINER**

*gull*

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1-3, 6, 7, 9-15 and 18-21** are rejected under 35 U.S.C. 103(a) as being unpatentable over *British Telecom* (WO 95/31865) hereinafter referred to as *BT*, in view of *Brooks* (US Patent No. 6,452,767).

a) **In Regarding to Claim 1:** *BT* disclosed a method for determining the suitability of a copper line, used for transmitting voice band signals and having one or more user devices coupled thereto for transmitting signals on the copper line, for use in transmitting data signals out-of-band with the voice band signals (*see Fig.1: units 5 and 6*), the method comprising:

applying a test signal at one point in the copper line (*see Figs.1 and 2: the test unit 5; and see page 2 lines 1-5: a noise generator in the test unit 5 sending noise signals (test signals) to exchange unit 6; and lines 3a and 3b are in the copper line 3 (hence, applying a test signal at one point in the copper line as the instant claim)*), the test signal having a known relationship to a particular out-of-band data transmission scheme (*see page 5 lines 20-30*);

monitoring a response of the copper line to the test signal (*see page 2 lines 5-8: analysis means for analyzing the incoming noise the signals*), as influenced by the one or more user devices (*see Fig.1: telephone device 1*); and

determining the suitability of the copper line for data transmission using a particular out-of-band data transmission scheme based on the monitored response of the copper line (*see page 3 lines 12-15; and page 5 lines 25-30*).

*BT* failed to explicitly disclose monitoring a response of the copper line at about the point where the test signal was applied.

*Brooks* clearly disclosed such monitoring a response of the copper line at about the point where the test signal was applied (*see Fig.6 and col.9 lines 36-67*).

At the time of the invention, it would be obvious to a person of ordinary skill in the art to combine such monitoring a response of the copper line at about the point where the test signal was applied, as taught by *Brooks* with *BT*, so that a copper line can be directly tested at a desired location without any assistance. The motivation for doing so would have been to reduce costs. Therefore, it would have been obvious to combine *Brooks* with *BT* in the invention as specified in the claim.

**b) In Regarding to Claims 2 and 3:** *BT* further disclosed the particular out-of-band data transmission scheme comprises a digital subscriber line transmission scheme as recited in **Claim 2** (*see page 6 line 9*); and wherein the particular out-of-band data transmission scheme comprises an asymmetric digital subscriber line (ADSL) transmission scheme as recited in **Claim 3** (*see page 5 lines 23-25*).

**c) In Regarding to Claims 6 and 7:** It is inherent that the copper line can include a copper network as well as a subscriber line because many copper lines can be constituted a copper network and a subscriber line. Therefore, the rejections in the claim 1 would apply to these two claims.

d) **In Regarding to Claim 9:** *BT* further disclosed determining the suitability of the copper line includes comparing the monitored response of the copper line with an empirically derived template defining a suitable response limit for the copper line (*see page 3 lines 12-15; for comparing the measured line attenuation with a predetermined threshold*).

e) **In Regarding to Claims 10 - 12:** *BT* further disclosed applying the test signal comprises injecting a modulated signal into the line at a frequency corresponding to the particular out-of-band data transmission scheme as recited in **Claim 10** (*see page 3 lines 1-8; page 5 lines 3-14; and page 5 line 31 – page 6 line 5*); wherein monitoring the response of the copper line includes determining whether the modulated signal at the frequency corresponding to the particular out-of-band data transmission scheme is demodulated as recited in **Claim 11** (*see page 3 lines 12 – 23; and page 5 lines 21-27*); and wherein determining the suitability of the copper line includes the monitored response of the copper line with an empirically derived template defining a suitable response limit for the copper line as recited in **Claim 12** (*see page 2 lines 22-25; page 3 lines 12-15; page 5 lines 25-30; and page 6 lines 6-10*).

f) **In Regarding to Claim 13:** *BT* disclosed a device for suitability of a copper line, used for transmitting voice band signals and having one or more user devices coupled thereto for transmitting signals on the copper line, for use in transmitting data signals out-of-band with the voice band signals (*see Fig.1: units 5 and 6*), the device comprising:

a signal generator coupled to the copper line at one point (*see Fig.2: noise generator 12*), the signal generator providing a test signal to the copper line (*see Fig.2: the connection from the generator 12 to the copper line 3 (3a and 3b) via switch 11 and line interface 13*), the test signal

having a known relationship to a particular out-of-band data transmission scheme (*see page 5 lines 20-30*);

monitoring a response of the copper line to the test signal (*see page 2 lines 5-8: analysis means for analyzing the incoming noise the signals*), as influenced by the one or more user devices (*see Fig. 1: telephone device 1*); and

a processing unit coupled monitoring circuit to receive the monitored response of the copper line to the test signal and to output an indication of the suitability of the copper line for use in transmitting data signal using the particular out-of-band data transmission scheme (*see Fig. 2: PC-based controller 14 (processing unit), data card 15 and line interface and switch 17 (monitoring circuit); and see page 5 line 25-30: traffic lights (output indication)*).

*BT* failed to explicitly disclose monitoring a response of the copper line at about the point where the test signal was applied.

*Brooks* clearly disclosed such monitoring a response of the copper line at about the point where the test signal was applied (*see Fig. 6 and col. 9 lines 36-67*).

At the time of the invention, it would be obvious to a person of ordinary skill in the art to combine such monitoring a response of the copper line at about the point where the test signal was applied, as taught by *Brooks* with *BT*, so that a copper line can be directly tested at a desired location without any assistance. The motivation for doing so would have been to reduce costs. Therefore, it would have been obvious to combine *Brooks* with *BT* in the invention as specified in the claim.

**g) In Regarding to Claims 14 and 15:** It is inherent that the copper line can include a copper network as well as a subscriber line because many copper lines can be constituted a

copper network and a subscriber line. Therefore, the rejections in the claim 1 would apply to these two claims.

**h) In Regarding to Claims 18 and 19:** *BT* further disclosed the device further comprising a memory arrangement coupled to the processing unit for storing an empirically template defining a limit for a suitable response of the copper line to the test signals for the particular out-of-band data transmission scheme as recited in **Claim 18** (*see label 15 in Fig. 3 and page 6 line 15*); and wherein the processor is adapted to compare the monitored response of the copper line with the empirically derived template and output an indication that the copper line is suitable for the particular out-of-band data transmission scheme when the monitored response is within the limit defined by the empirically derived template as recited in **Claim 19** (*see page 2 lines 22-25; page 3 lines 12-15; page 5 lines 25-30; and page 6 lines 6-10*).

**i) In Regarding to Claim 20:** *BT* disclosed a method for determining the suitability of a copper line, used for transmitting voice band signals and having one or more user devices coupled thereto for transmitting signals on the copper line, for use in transmitting data signals out-of-band with the voice band signals (*see Fig.1: units 5 and 6*), the method comprising:

applying a test signal at one point in the copper line within a subscriber's premises (*see Figs.1 and 2: the test unit 5; and see page 2 lines 1-5: a noise generator in the test unit 5 sending noise signals (test signals) to exchange unit 6; and lines 3a and 3b are in the copper line 3, and the test unit 5 is being placed between the master socket 4 and the telephone device 1 (hence, applying a test signal at one point in the copper line within a subscriber's premises as the instant claim)*), the test signal having a known relationship to a particular out-of-band data transmission scheme (*see page 5 lines 20-30*);

monitoring a response of the copper line to the test signal within a subscriber's premises (*see page 2 lines 5-8: analysis means for analyzing the incoming noise the signals*), as influenced by the one or more user devices (*see Fig.1: telephone device 1*); and

determining the suitability of the copper line for data transmission using a particular out-of-band data transmission scheme based on the monitored response of the copper line (*see page 3 lines 12-15; and page 5 lines 25-30*).

*BT* failed to explicitly disclose monitoring a response of the copper line at about the point where the test signal was applied.

*Brooks* clearly disclosed such monitoring a response of the copper line at about the point where the test signal was applied (*see Fig.6 and col.9 lines 36-67*).

At the time of the invention, it would be obvious to a person of ordinary skill in the art to combine such monitoring a response of the copper line at about the point where the test signal was applied, as taught by *Brooks* with *BT*, so that a copper line can be directly tested at a desired location without any assistance. The motivation for doing so would have been to reduce costs. Therefore, it would have been obvious to combine *Brooks* with *BT* in the invention as specified in the claim.

j) **In Regarding to Claim 21:** The claimed subject matters of the limitations disclosed in the claim 13 are the same as in this Claim. Therefore, *BT* would apply the rejection in the claim 13 to this claim in a test unit as taught.

3. **Claims 4, 5, 8, 16 and 17** are rejected under 35 U.S.C. 103(a) as being unpatentable over *British Telecom* (WO 95/31865) in view of *Brooks* (US Patent No. 6,452,767) as applied to



claims 1, 13, 20 and 21 above, and further in view of *Mannering et al.* (US Patent No. 6,137,839) hereinafter referred to as *Mannering*.

a) **In Regarding to Claim 4:** *BT* disclosed all aspects of this claim as set forth in claim 1.

*BT* failed to explicitly disclose one or more user devices comprise a plurality of user devices including at least one telephone and at least one computer.

*Mannering* explicitly disclosed such a plurality of user devices (*see Fig. 2A: devices 212-218*).

At the time of the invention, it would be obvious to a person of ordinary skill in the art to combine such a plurality of user devices, as taught by *Mannering* with *BT* for a purpose of a multiple usage. The motivation for doing so would have been to provide data devices and telephones can be used simultaneously. Therefore, it would have been obvious to combine *Mannering* with *BT* in the invention as specified in the claim.

b) **In Regarding to Claim 5:** *BT* further disclosed the method further comprising determining a need for a filter at location of at least one of the telephone and computer to separate voice band signals and out-of-band signals transmitted on the copper line based on the monitored response of the copper line based on the monitored response of the copper line (*see page 5 lines 15-30: in this paragraph the BT disclosed that the captured signal is compared with a predetermined threshold to evaluate the line's suitability for ADSL. For example, the predetermined threshold may line within the range of 50dB to 60dB at 300kHz. In addition, the exchange unit may be configured so that the output is a simple decision as to whether or not the line 3 suitable for ADSL. Hence, a need for a filter can be determined by such comparison, evaluation and configuration based on the monitored response of the copper line*).

**c) In Regarding to Claim 8:** *BT* disclosed all aspects of this claim as set forth in claim 1

*BT* failed to explicitly teach the suitability of the copper line includes determining whether any of the one or more user devices has a non-linear characteristic based on the monitored response of the copper line.

*Mannering* explicitly disclosed such a non-linear characteristic device based on the monitored response of the copper line (*see Fig.1: the test line device 115A and the devices located in the CP #1. For example, while devices 135 and 150 are being used by customers, another customer may enter the telephone 125; this would cause interference at the copper line 105, and this will induce a non-linear characteristic at the line 150. Hence, the device 125 has a non-linear characteristic based on the monitored response of the copper line collected by the test line device 115A*).

At the time of the invention, it would be obvious to a person of ordinary skill in the art to combine such a plurality of user devices, as taught by *Mannering* with *BT* for a purpose of a multiple usage. The motivation for doing so would have been to provide data devices and telephones can be used simultaneously. Therefore, it would have been obvious to combine *Mannering* with *BT* in the invention as specified in the claim.

**d) In Regarding to Claim 17:** *BT* disclosed all aspects all aspects of this claim as set forth in claim 1.

*BT* failed to explicitly teach a monitoring circuit as that of the Applicants.

However, the monitoring circuit with a resistor coupled in series between a signal generator and a copper line, an Op Amp whose input terminals coupled to two sides of the resistor respectively, and an A/D converter coupled to the output of the Op Amp is a design

choice to evaluate test results based on test signals applied to the copper line, so that the suitability of the copper line can be determined throughout the test results. Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art can employ such a monitoring circuit of the *BT*, as taught by the Applicants in order to monitor the current strength of a current flowing into the copper line. The motivation for doing so would have been to reduce costs of testing devices.

e) **In Regarding to Claim 16:** A current-to-voltage transducer as taught by the Applicant is just a resistor as described in claim 17 above. Therefore, the rejections on claim 17 would apply to claim 16 in a monitoring circuit as taught.

4. **Claims 25, 43 and 44** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Bingel et al.* (US Patent No. **6,014,425**) (provided by IDS paper #4) hereinafter referred to as *Bingel*, in view of the *British Telecom* (WO 95/31865).

a) **In Regarding to Claim 25:** *Bingel* disclosed a communication system, comprising:  
a communication line (*see lines 101 in Fig.1*);  
a plurality of user devices coupled to the communication line (*see devices located in Customer Premises #1 to #N in Fig.1*); and  
a computer system coupled to the communication line (*see label 150 in Fig. 1; col.6 line 40 – col.7 line 19; and col.7 lines 20-52*), the computer system comprising:  
a modem adapted to communication over the communication line over the communication line using an out-of-band data transmission protocol (*see modems 110 line 101 in Fig.1; see and Title in page 1 and label 250 in Fig.2 for DSL (hence out-of-band data transmission protocol)*); and

a test unit adapted to determine the suitability of the communication line for use in transmitting data signals using an out-of-band data transmission protocol, monitor a response of the communication line to the test signal as influenced by the user devices, and output and indication of suitability of the communication line for use in transmitting data signals based on the response (*see Figs 1 and 2; col.5 lines 17-46; and col.7 line 53 – col.9 line 42*).

*Bingel* failed explicitly teach the test signal having a known relationship to a particular out-of-band data transmission scheme on the communication line.

*BT* explicitly disclosed such a test signal having a known relationship to a particular out-of-band data transmission scheme on the communication line (*see page 5 lines 20-30*).

At the time of the invention, it would be obvious to a person of ordinary skill in the art to combine such a plurality of user devices, as taught by *BT* with *Bingel*, so that a test signal can have a known relationship to the out-of-band data transmission protocol on a communication line. The motivation for doing so would have been to monitor a response of the communication line in order to determine the suitability of the communication line. Therefore, it would have been obvious to combine *BT* with *Bingel* in the invention as specified in the claim.

*Bingel* also failed to explicitly teach a computer system being adapted to contact a vendor for supplying service using out-of-band data transmission over the modem, and provide the vendor with physical location information associated with the communication line and receive service availability data based on the physical location information.

However, *Bingel* explicitly disclosed an Internet network that connected to customer premises, and particularly *Bingel* disclosed a plurality of customer premises connected to the

subscriber line 101 as shown in Fig.1; based upon this connection, for example, one of the customer premises can be a vendor. Therefore, such a vendor can be contacted by a customer premises via the subscriber line 101 in a purpose for receiving a service.

Therefore, at the time of the invention, it would have been obvious to one having ordinary skill in the art at the time the invention was made can provide such a computer system being adapted to contact a vendor for supplying service using out-of-band data transmission over the modem, and provide the vendor with physical location information associated with the communication line and receive service throughout the testing apparatus of *Bingel*, so that a customer premises can communicate with a vendor via the subscriber line, The motivation for doing so would have been to request a service from a vendor effectively and more quickly.

**b) In Regarding to Claim 43:** *Bingel* disclosed a method for determining the suitability of a copper line, used for transmitting voice band signals and having one or more user devices coupled thereto for transmitting signals on the copper line, for use in transmitting data signals out-of-band with the voice band signals the method comprising:

monitoring a response of the communication line to the test signal as influenced by the user devices (*see Figs 1 and 2; col.5 lines 17-46; and col.7 line 53 – col.9 line 42*);

disconnecting at least one of the user devices from the communication line (*see Figs 7A and 7B; col.7 line 53 – col.8 line 65; and col.5 lines 31-34*);

repeating the monitoring if the at least one user device disconnected from the communication line is an interference (*see col.8 line 36-49*).

*Bingel* failed to explicitly disclose the step of determining a need for a filter at location of at least one of user devices based on the monitored response.

*BT* explicitly disclosed such determining a need for a filter at location of at least one of user devices based on the monitored response (see page 5 lines 15-30: in this paragraph the *BT* disclosed that the captured signal is compared with a predetermined threshold to evaluate the line's suitability for ADSL. For example, the predetermined threshold may line within the range of 50dB to 60dB at 300kHz. In addition, the exchange unit may be configured so that the output is a simple decision as to whether or not the line is suitable for ADSL. Hence, a need for a filter can be determined by such comparison, evaluation and configuration based on the monitored response of the copper line).

At the time of the invention, it would be obvious to a person of ordinary skill in the art to combine such a determining a need for a filter at location of at least one of user devices based on the monitored response, as taught by *BT* with *Bingel* for filtering low and high frequencies. The motivation for doing so would have been to provide data devices and telephones can be used simultaneously without any interferences. Therefore, it would have been obvious to combine *BT* with *Bingel* in the invention as specified in the claim.

c) **In Regarding to Claim 44:** *Bingel* further disclosed the method further comprising iteratively disconnecting each of the user devices and repeating the providing, monitoring, and determining steps to determine if any of the user devices disconnected from the communication line are interfering devices (see col.7 line 53 – col.8 line 65; col.5 lines 31-34; and col.8 lines 35-49).

***Allowable Subject Matter***

5. **Claims 23, 28-30, 33 and 35-42** are allowed.

**Response to Remarks**

6. Applicant's arguments filed on 8/23/2004 have been fully considered but they are not persuasive. Claims 1-21, 25, 43 and 44 have been respectfully traversed and reconsidered. However, all of these claims are still rejected as the same old ground of the rejection as described above.

**Claim 1:** Examiner respectfully traversed the remarks of the Applicants filed on 8/24/2004. However, Examiner disagrees with the Applicants that *BT* and *Brooks* do not disclose or make up for deficit or make obvious all of the elements of this claim.

In fact, *BT* explicitly discloses a testing system for testing a telephone line between a customer's network termination equipment and a local exchange (central office) associated thereby; *BT* uses a field unit positioned between the customer's telephone and the network termination equipment to produce (apply) a test signal from the field unit to an exchange unit located at the local exchange (*see BT: page 3 lines 1-8*). Thereby, the field unit or the exchange unit is located at a single point in the telephone line (copper line) because the telephone line is connected from the customer's telephone to the central office (the local exchange).

Furthermore, the Applicant's test unit is located either at the central office or at the customer premise (*see Applicant's Figs. 1 and 7*).

In addition, *BT* also uses the exchange unit to monitor a response of the copper line to the test signal.

Therefore, the test system of *BT* does teach the claim limitations: "*applying a test signal at one point in the copper line*" and "*monitoring a response of the copper lines to the test signal*" as set forth in claim 1.

**Claims 13, 20 and 21** also include a similar feature, and therefore, all of the elements of these claims are not allowed for the reasons cited above.

**Claims 1, 13, 20 and 21** *BT* doesn't disclose the claim limitation: "*wherein the monitoring takes place at about the point where the test signal was applied*". However, *Brooks* explicitly discloses such monitoring takes place at about the point where the test signal was applied as described in the section 2 above. Furthermore, *BT*'s test system inherently includes such a claim limitation "*wherein the monitoring takes place at about the point where the test signal was applied*". Suppose that a tester doesn't want to place the field unit at the customer equipment, but he wants to place the field unit at one point close to the exchange unit at the central office and uses the exchange unit to monitor a response of the copper line, with this option, *BT*'s test system would be including all claimed limitations of the Applicants.

For the reasons above, the claims 1-3, 6, 7, 9-15 and 18-21 are unpatentable and being still rejected as the same old ground of the rejection.

**Claim 4** calls for one or more user devices comprise a plurality of user devices including at least one telephone and at least one computer.

Examiner totally disagrees with the Applicants that adding the disclosure of *Mannering* to the disclosures of *BT* doesn't make obvious all of elements of the claim 4. However, the inventions of *BT* and *Mannering* are relating to xDSL; thereby a xDSL modem can be used for both a telephone and a computer at the same times. Therefore, *Mannering* can be combined with *BT* as an expectation of success to determine characteristics of a copper line connected from a central office to a customer equipment.



**Claim 5**, which depends on claim 1, includes the additional feature of determining the needs for a filter based on the monitored response of the copper line. *BT* also disclosed this claim limitation because an ADSL is used to filter out for high frequency using for data signals (*see BT: page 5 lines 15-30*).

**Claim 8**, which depends on claim 1, includes the feature of identifying a non-linear characteristic based on the monitored response of the copper line. Examiner also disagrees with the Applicants that using *Mannering* doesn't make obvious this element because *Mannering* explicitly discloses such a non-linear characteristic device based on the monitored response of the copper line (*see Fig. 1: the test line device 115A and the devices located in the CP #1. For example, while devices 135 and 150 are being used by customers, another customer may enter the telephone 125; this would cause interference at the copper line 105, and this will induce a non-linear characteristic at the line 150. Hence, the device 125 has a non-linear characteristic based on the monitored response of the copper line collected by the test line device 115A*).

Additionally, **claims 16 and 17**, the monitoring circuit with a resistor coupled in series between a signal generator and a copper line, an Op Amp whose input terminals coupled to two sides of the resistor respectively, and an A/D converter coupled to the output of the Op Amp is a design choice to evaluate test results based on test signals applied to the copper line, so that the suitability of the copper line can be determined throughout the test results, and **Claim 16**: a current-to-voltage transducer as taught by the Applicant is just a resistor as described in claim 17 above. Therefore, the rejections on claim 17 would apply to claim 16 in a monitoring circuit as taught.

For the reasons above, the claims 4, 5, 8, 16 and 17 are unpatentable and being still rejected as the same old ground of the rejection.

**Claim 25** calls for contacting a vendor for supplying service using the out-of-band data transmission protocol over a modem, providing the vendor with physical location information associated with the communication line, and receiving service availability data based on the physical location information.

Although *Bingel* does not explicitly teach a computer system being adapted to contact a vendor for supplying service using out-of-band data transmission over the modem and provide the vendor with physical location information associated with the communication line and receive service availability data based on the physical location information, *Bingel* explicitly discloses an Internet Network that connected to customer premises (CP) via the central office, and particularly *Bingel* discloses a plurality of customer premises connected to the subscriber line 101 as shown in Fig.1. Based upon this connection, for example, one of the customer premises can be a vendor, and the PC 150 at the CP can be used to contact with the vendor via the modem 110 and the Internet because data information can be transmitted/received from/to the PC 150 via the modem 110 as shown in Fig.1. (i.e., out-of-band data transmission protocol can be utilized by a modem). Therefore, such a vendor can be contacted for a service by any customer premises via the subscriber line 101.

Regarding to **Claim 43**, Examiner respectfully agrees with the Applicants that neither *Bingel* nor *BT* makes obvious “*determining a local filtering of a location of a user device in*

*response to determining if one user device is an interference device*". However, the claim 43 does not claim such a claimed limitation.

On the other hand, *Bingel* explicitly discloses disconnect a user device from the communication line as well as repeating the monitoring to determine with the disconnected device is an interfering device (*see Bingel: col.8 lines 21-49*).

For the reasons set forth above, the claims 25, 43 and 44 are unpatentable and being still rejected as the same old ground of the rejection.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

#### **Examiner Information**

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Anthony T Ton** whose telephone number is **571-272-3076**. The examiner can normally be reached on M-F: 8:30 am - 5:00 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Ken Vanderpuye** can be reached on **571-272-3078**. The fax phone number for the organization where this application or proceeding is assigned is **703-872-9306**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBT) at 866-217-9197 (toll-free).

Respectfully submitted,

by: *Attk*  
Anthony T. Ton  
*Patent Examiner*

January 5, 2005

  
**PHIRIN SAM**  
**PRIMARY EXAMINER**